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Dated: January 17, 2006 Signature: *Mary Jane D'Alma*  
(Mary Jane D'Alma)

Docket No.: ASZD-P01-897  
(PATENT)

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

In re Patent Application of:  
McKerrecher et al.

Application No.: 10/534650

Confirmation No.: 6547

Filed: May 12, 2005

Art Unit: 1615

For: BENZOFURAN DERIVATIVES, PROCESS  
FOR THEIR PREPARATION AND  
INTERMEDIATES THEREOF

Examiner: Not Yet Assigned

**INFORMATION DISCLOSURE STATEMENT (IDS)**

MS Amendment  
Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

Dear Sir:

Pursuant to 37 CFR 1.56, 1.97 and 1.98, the attention of the Patent and Trademark Office is hereby directed to the references listed on the attached PTO/SB/08. It is respectfully requested that the information be expressly considered during the prosecution of this application, and that the references be made of record therein and appear among the "References Cited" on any patent to issue therefrom.

This Information Disclosure Statement is filed before the mailing date of a first Office Action on the merits as far as is known to the undersigned (37 CFR 1.97(b)(3)).

A summary/abstract translation of the non-English language references is enclosed.

Applicant has not submitted copies of each cited U.S. patent and U.S. patent application as required by 37 CFR 1.98(a)(2)(i), amended October 2004, as the U.S. Patent and Trademark Office has waived this requirement for all U.S. patent applications. Applicant submits herewith copies of foreign and non-patents in accordance with 37 CFR 1.98(a)(2).

In accordance with 37 CFR 1.97(g), the filing of this Information Disclosure Statement shall not be construed to mean that a search has been made or that no other material information as defined in 37 CFR 1.56(a) exists. In accordance with 37 CFR 1.97(h), the filing of this Information Disclosure statement shall not be construed to be an admission that any patent, publication or other information referred to therein is "prior art" for this invention unless specifically designated as such.

It is submitted that the Information Disclosure Statement is in compliance with 37 CFR 1.98 and the Examiner is respectfully requested to consider the listed references.

The Director is hereby authorized to charge any deficiency in the fees filed, asserted to be filed or which should have been filed herewith (or with any paper hereafter filed in this application by this firm) to our Deposit Account No. 18-1945, under Order No. ASZD-P01-897.

Dated: January 17, 2006

Respectfully submitted,

By 

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PTO/SB/08a/b (07-05)

Approved for use through 07/31/2006. OMB 0651-0031

U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE

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Substitute for form 1449A/B/PTO  <b>INFORMATION DISCLOSURE STATEMENT BY APPLICANT</b>  <i>(Use as many sheets as necessary)</i>				<b>Complete If Known</b>	
				Application Number	10/534650
				Filing Date	May 12, 2005
				First Named Inventor	Darren McKerrecher
				Art Unit	1615
				Examiner Name	Not Yet Assigned
Sheet	1	of	3	Attorney Docket Number	ASZD-P01-897

U.S. PATENT DOCUMENTS					
Examiner Initials*	Cite No. <sup>1</sup>	Document Number Number-Kind Code <sup>2</sup> (if known)	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear

FOREIGN PATENT DOCUMENTS						
Examiner Initials*	Cite No. <sup>1</sup>	Foreign Patent Document	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear	T
		Country Code <sup>3</sup> -Number <sup>4</sup> -Kind Code <sup>5</sup> (if known)				
	BA	WO-00/58293-A1	10-05-2000	F. Hoffmann-La Roche AG		
	BB	WO-01/20327-A1	03-22-2001	AstraZeneca AB		
	BC	WO-01/44216-A1	06-21-2001	F. Hoffman-La Roche AG		
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	BL	WO-03/000262-A1	01-03-2003	AstraZeneca AB		
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	BO	WO-03/022856-A1	03-20-2003	Pharmacia & Upjohn Company		
	BP	WO-03/047626-A1	06-12-2003	Novo Nordisk A/S		
	BQ	WO-03/055482-A1	07-10-2003	Novo Nordisk A/S		
	BR	WO-03/080585-A1	10-02-2003	Banyu Pharmaceutical Co., Ltd.		
	BS	WO-03/095438-A1	11-20-2003	F. Hoffman-La Roche AG		
	BT	WO-03/097824-A1	11-27-2003	Banyu Pharmaceutical Co., Ltd.		
	BU	WO-04/002481-A1	01-08-2004	Novo Nordisk A/S		
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	BX	WO-04/050645-A1	06-17-2004	Novartis AG		
	BY	WO-04/052869-A1	06-24-2004	F. Hoffman-La Roche AG		
	BZ	WO-04/063179-A1	07-29-2004	Eli Lilly and Company		
	BA1	WO-04/063194-A1	07-29-2004	Eli Lilly and Company		
	BB1	WO-04/072031-A2	08-26-2004	Osi Pharmaceuticals, Inc.		
	BC1	WO-04/072066-A1	08-26-2004	Osi Pharmaceuticals, Inc.		
	BD1	WO-04/076420-A1	09-10-2004	Banyu Pharmaceutical Co., Ltd.		
	BE1	WO-04/081001-A1	09-23-2004	Banyu Pharmaceutical Co., Ltd.		
	BF1	WO-05/044801-A1	05-19-2005	AstraZeneca AB		
	BG1	WO-05/049019-A1	06-02-2005	Novo Nordisk A/S		
	BH1	WO-05/054200-A1	06-16-2005	AstraZeneca AB		
	BI1	WO-05/054233-A1	06-16-2005	AstraZeneca AB		
	BJ1	WO-05/056530-A1	06-23-2005	AstraZeneca AB		

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				First Named Inventor	Darren McKerrecher
				Art Unit	1615
				Examiner Name	Not Yet Assigned
Sheet	2	of	3	Attorney Docket Number	ASZD-P01-897

	BK1	EP-1336607-A1	08-20-2003	Novo Nordisk A/S		
	BL1	GB-2385328-A	08-20-2003	F. Hoffman-La Roche AG		

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NON PATENT LITERATURE DOCUMENTS				
Examiner Initials	Cite No. <sup>1</sup>	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T <sup>2</sup>	
	CA	Alvarez et al., "Expression of the Glucagon-Like Peptide-1 Receptor Gene in Rat Brain," <i>Journal of Neurochemistry</i> 66(3):920-927 (1996)		
	CB	Alvarez et al., "Evidence that Glucokinase Regulatory Protein is Expressed and Interacts with Glucokinase in Rat Brain," <i>Journal of Neurochemistry</i> 80:45-53 (2002)		
	CC	Bell et al., "Glucokinase Mutations, Insulin Secretion, and Diabetes Mellitus," <i>Annu. Rev. Physiol.</i> 58:171-186 (1996)		
	CD	Brocklehurst et al., "Stimulation of Hepatocyte Glucose Metabolism by Novel Small Molecule Glucokinase Activators," <i>Diabetes</i> 53:535-541 (2004)		
	CE	Caro et al., "Liver Glucokinase: Decreased Activity in Patients with Type II Diabetes," <i>Horm. Metab. Res.</i> 27:19-22 (1995)		
	CF	Christesen et al., "The Second Activating Glucokinase Mutation (A456V) Implications for Glucose Homeostasis and Diabetes Therapy," <i>Diabetes</i> 51:1240-1246 (2002)		
	CG	Corbett, "Track 3 - Mastering Medicinal Chemistry: Applying Organic Chemistry to Biological Problems, Success Stories in Medicinal Chemistry," <i>Molecular Medicine Tri-Conference, Moscone West Convention Center, San Francisco California, 3/26/05 - 11:00-11:30</i> Glucokinase Activators: Discovery of Novel, Orally Active Glucose Lowering Agents, March 24-26, 2004		
	CH	DeFronzo, "The Triumvirate: $\beta$ -Cell, Muscle, Liver - A Collusion Responsible for NIDDM," <i>Diabetes</i> 37:667-687 (1988)		
	CI	Desai et al., "Phenotypic correction of Diabetic Mice by Adenovirus-Mediated Glucokinase Expression," <i>Diabetes</i> 50:2287-2295 (2001)		
	CJ	Ferre et al., "Correction of Diabetic Alterations by Glucokinase," <i>Proc. Natl. Acad. Sci. USA</i> 93:7225-7230 (1996)		
	CK	Froguel et al., "Familial Hyperglycemia Due to Mutations in Glucokinase - Definition of a Subtype of Diabetes Mellitus," <i>The New England Journal of Medicine</i> 328(10):697-702 (1993)		
	CL	Fujimoto et al., "Administration of D-Glucosamine into the Third Cerebroventricle Induced Feeding Accompanied by Hyperglycemia in Rats," <i>Life Sciences</i> 37(26):2475-2482 (1985)		
	CM	Glaser et al., "Familial Hyperinsulinism Caused by an Activating Glucokinase Mutation," <i>The New England Journal of Medicine</i> 338(4):226-230 (1998)		
	CN	Grimsby et al., "Allosteric Activators of Glucokinase: Potential Role in Diabetes Therapy," <i>Science</i> 301:370-373 (2003)		
	CO	Grimsby, "Glucokinase Activators - Potential Treatment for Type 2 Diabetes," <i>Roche - SMI Diabetes London UK</i> pgs. 28-29 (2002)		
	CP	Kurata et al., "Structural Evaluation of Glucose Analogues on Feeding Elicitation in Rat," <i>Metabolism</i> 38(1):46-51 (1989)		

Examiner Signature		Date Considered	
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			Art Unit	1615
			Examiner Name	Not Yet Assigned
			Attorney Docket Number	ASZD-P01-897
Sheet	3	of	3	

	CQ	Kurata et al., "D-Glucose Suppression of Eating After Intra-Third Ventricle Infusion in Rat," Physiology & Behavior 37:615-620 (1986)	
	CR	Levin, "Glucosensing Neurons do More Than Just Sense Glucose," International Journal of Obesity 25(5):S68-S72 (2001)	
	CS	Levin et al., "Differential Effects of Diet and Obesity on High and Low Affinity Sulfonylurea Binding Sites in the Rat Brain," Brain Research 739:293-300 (1996)	
	CT	Levin et al., "In vivo and In vitro Regulation of [ <sup>3</sup> H] Glyburide Binding to Brain Sulfonylurea Receptors in Obesity-Prone and Resistant Rats by Glucose," Brain Research 776:146-153 (1997)	
	CU	Levin et al., "Brain Glucose Sensing and body Energy Homeostasis: Role in Obesity and Diabetes," A. J. of Physiology 276:R1223-R1231 (1999)	
	CV	Levin et al., "Reduced Glucose-Induced Neuronal Activation in the Hypothalamus of Diet-Induced Obese Rats," Brain Research 808:317-319 (1998)	
	CW	Lynch et al., "Localization of Glucokinase Gene Expression in the Rat Brain," Diabetes 49:693-700 (2000)	
	CX	McKerrecher et al., "Discovery, Synthesis and Biological Evaluation of Novel Glucokinase Activators," Bioorganic & Medicinal chemistry Letters 15:2103-2106 (2005)	
	CY	Mobbs et al., "Brain Glucose-Sensing Mechanisms: Ubiquitous Silencing by Aglycemia vs. Hypothalamic Neuroendocrine Responses," Am. J. Physiol. Endocrinol. Metab. 281:E649-E654 (2001)	
	CZ	Moore et al., "Acute Fructose Administration Improves Oral Glucose Tolerance in Adults with Type 2 Diabetes," Diabetes Care 24(11):1882-1887 (2001)	
	CA1	Printz et al., "Mammalian Glucokinase," Annu. Rev. Nutr. 13:463-496 (1993)	
	CB1	Qian-Cutrone et al., "Glucolipin A and B, Two New Glucokinase Activators Produced by Streptomyces purpurogeniscleroticus and Nocardia vaccinii," The Journal of Antibiotics 52(3):245-255 (1999)	
	CC1	Roncero et al., "Functional Glucokinase Isoforms are Expressed in Rat Brain," Journal of Neurochemistry 74(5):1848-1857 (2000)	
	CD1	Rowe et al., "Potassium Channel Dysfunction in Hypothalamic Glucose-Receptive Neurones of Obese Zucker Rats," Journal of Physiology 497(2):365-377 (1996)	
	CE1	Schuit et al., "Perspectives in Diabetes - Glucose Sensing in Pancreatic $\beta$ -Cells - A Model for the Study of Other Glucose-Regulated Cells in Gut, Pancreas, and Hypothalamus," Diabetes 50:1-11 (2001)	
	CF1	Seoane et al., "Glucokinase Overexpression Restores Glucose Utilization and Storage in Cultured Hepatocytes from Male Zucker Diabetic Fatty Rats," The Journal of Biological Chemistry 274(45):31833-31838 (1999)	
	CG1	Shiota et al., "Glucokinase Gene Locus Transgenic Mice are Resistant to the Development of Obesity-Induced Type 2 Diabetes," Diabetes 50:622-629 (2001)	
	CH1	Spanswick et al., "Insulin Activates ATP-Sensitive K <sup>+</sup> Channels in Hypothalamic Neurons of Lean, but Not Obese Rats," Nature Neuroscience 3(8):757-758 (2000)	
	CI1	Spanswick et al., "Leptin Inhibits Hypothalamic Neurons by Activation of ATP-Sensitive Potassium Channels," Nature 390:521-525 (1997)	
	CJ1	Velho et al., "Impaired Hepatic Glycogen Synthesis in Glucokinase-Deficient (MODY-2) Subjects," J. Clin. Invest. 98:1755-1761 (1996)	
	CK1	Yang et al., "Hypothalamic Glucose Sensor - Similarities to and Differences from Pancreatic $\beta$ -Cell Mechanisms," Diabetes 48:1763-1772 (1999)	
	CL1	Carroll et al., "Stress, Signalling and Control, Biochemical Society Meeting 679 2-4 July 2003	

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